Chapter 15

Backing up data

In this chapter

Overview of backing up data 658

Backup speeds 663

Calculating the capacity requirements for database backups 667

Requirements for database backups 670

Section A: Setting up database backup options 673

Section B: Performing database backups 691

Section C: Performing Voice Services backups 707

Section D: Backing up other kinds of data 715

Section E: Using a third-party backup utility to create full backups 723

Overview of backing up data

Introduction

Your backup strategy is a critical part of your disaster recovery program. Backups minimize the data loss from catastrophic failure.

Your backup strategy can include the following types of backups:

- database (partial) backups
- Platform Recovery Disk
- Voice Services backups
- full backups (using a third-party utility)

Note: In previous releases of this guide, the term "partial backup" was used to describe a backup of the server's database, which contains historical data, reports, and call center configuration information. For Release 4.2 of Symposium Express Call Center, this type of backup is now referred to as a "database backup." This is separate from, and not to be confused with, the Voice Services database and configuration backup, which is discussed in more detail later in this chapter.

Database backups

When you perform a database backup, the system backs up historical data, reports, and call center configuration information stored on the server. You can direct the backup to a tape or to a remote directory on a network computer. You can perform an unscheduled or scheduled database backup. A database backup is performed while the server is online.

In conjunction with a Platform Recovery disk (see the description below), a database backup allows you to restore all system data (scripts and statistics) after a crash.

When to perform a database backup

Nortel Networks recommends performing a daily database backup using the Symposium Express Call Center backup utility.

Platform Recovery Disk

When you create a Platform Recovery Disk, the system saves both server and database configuration data into a series of text files. You must keep an up-to-date Platform Recovery Disk available in case you need to recover your server software, database, or both.

When to create a Platform Recovery Disk

Nortel Networks recommends you create a Platform Recovery Disk after any major modifications to the system. For a detailed list of these modifications, see "Backup best practices" on page 661.

Voice Services backups

Note: Voice Services is a keycode-enabled feature. You can only perform Voice Services backups if you have this option.

There are two steps to a full Voice Services backup:

- Voice Services PCMCIA card backup
- Voice Services database and configuration backup, which backs up treatment and switch map information, as well as configuration details defined in the Voice Services configuration utility (keycode, IP address, default directory number, and so on)

When to perform Voice Services backups

Perform a full Voice Services backup (the PCMCIA card, and the Voice Services database and configuration) every time a full Symposium Express Call Center backup takes place. You should also do a full Voice Services backup every time you

- create new prompts
- change the treatment configuration (for example, make changes to a previously created voice menu)
- add, remove, or change Voice Services ports, either through a Voice Services data import, or through the Switch Map section of the Voice Services Administration application
- change the Voice Services configuration

Full backups

A full backup backs up the contents of all hard drives, including the registry and the database. A full backup allows you to restore the server to its state at the time of the backup. It is useful for recovery from a catastrophic failure in the server's disk subsystem. In combination with a current database backup, a full backup can help you minimize your data loss.

A full backup is performed while the server is offline.

Note: You do not require a full backup of your Symposium Express Call Center server if you maintain a current database backup, Platform Recovery Disk, and Voice Services database and configuration backup, as well as the original server software.

When to perform a full backup

You should create a full backup

- after installation and configuration of a new server
- before and after a major conversion of the server (for example, from Release 3.0 to Release 4.2)
- before and after any major hardware upgrades (such as a disk expansion, BIOS upgrade, or platform migration)

ATTENTION

To create a full backup, you must use a third-party backup utility. For information on preparing for a third-party backup, see Section E: "Using a third-party backup utility to create full backups" on page 723.

Administration levels for backups

There are two levels of Symposium Express Call Center administration: customer and system. The recommended access levels for backups are as follows:

- full backups – Windows administrator user
- unscheduled database backups – customer administrator (custadmin user)
- scheduled database backups – system administrator (sysadmin user)

- Voice Services backups – Windows administrator user

Daily maintenance and database backups

The daily maintenance process consolidates statistics. It runs on the server at midnight and takes several hours, depending on the system configuration. Frequent delays occur if you schedule a backup at the same time as the daily maintenance process. The server puts the backup on hold until the maintenance process is completed. The delay is logged in the backup log file, and it has no impact on the system or backup.

Backup best practices

To help you recover your database in the case of a system failure, follow the guidelines listed below to ensure that you always have an up-to-date backup of your database files:

- Create a new Platform Recovery Disk after you have expanded your database using the Database Expansion Utility, restored your database, and each time you change any of the following information on the server:
  - **Customer Information** If you change your customer name or company name, then you must create a new Platform Recovery Disk.
  - **Keycode Information** If you enter a new serial number and keycode when upgrading the server software, then you must create a new Platform Recovery Disk.
  - **M1/CSE 1000 Switch Information** If you update switch information, such as the switch name, IP address, and customer number, then you must create a new Platform Recovery Disk.
  - **ELAN/CLAN IP Addresses** If you update the ELAN or CLAN IP address of the server, then you must create a new Platform Recovery Disk.
  - **Voice Connection** If you update the connection to the voice processing system (CallPilot or Meridian Mail), then you must create a new Platform Recovery Disk.
  - **Site Name** If you change the site name for Symposium Express Call Center, then you must create a new Platform Recovery Disk.

- Perform daily database backups. For more information on setting up database backups, see Section A: "Setting up database backup options" on page 673.

Backup speeds

Backup types and backup speeds

The following table provides a summary description of the types of backups:

Backup type	Definition	Result	Approximate speed of backup
Database backup	Backs up all information stored in the Symposium Express Call Center database to a remote directory or to tape.	*Online* operation: Call processing continues as the backup executes. No Symposium Express Call Center services are stopped.	■ See notes below the table.
Full backup **Note:** Full backup requires a third-party backup utility.	Backs up the entire system using a third-party backup utility.	*Offline* operation: Allows you to restore the system to its state at the time of the backup.	■ See the documentation for the third-party backup utility.

Notes:

- To help calculate the speed of database backups before a conversion, it is a good idea to perform a trial run of the backup at least several days before the conversion. Keep in mind that the time required to do a database backup can vary between the trial run and the actual backup day due to several factors.
- For a listing of the variables that can affect the speed of your backup and restore, see "Variables affecting backup and restore speed" on page 664.

Variables affecting backup and restore speed

Since Symposium Express Call Center runs on a Platform Vendor Independence (PVI) platform, the factors that affect backup speeds can vary from server to server. The factors shown in the following table can affect backup and restore speed for both remote directory and tape backups. To improve the backup/restore speed on your server, note the recommendations in the last column of the table.

Backup/restore variable	Impact of variable on backup/restore	Recommendation
Symposium Express Call Center CPU speed	Faster CPU means more free processing time available for the backup/restore.	Use a higher CPU speed on your PVI server.
Symposium Express Call Center database disk speed	Faster database disk speed allows for a higher data transfer rate for the backup/restore task.	Use a faster disk.
Symposium Express Call Center processing time	Since database backup/restore is a low priority background task on the server, more call traffic, real-time displays, or scheduled reports will slow down the backup/restore task.	Backup/restore your database during low traffic hours, or during periods of low server activity.
Symposium Express Call Center local tape type	Different tape drives have different data transfer rates. Faster tape drives will allow faster database backup/restore on a local tape.	Use a faster tape drive type for local tape backup/restore.

Backup/restore variable	Impact of variable on backup/restore	Recommendation
Remote PC CPU speed	Faster CPU speed on the remote PC will mean more free processing time available for the remote backup/restore task on the remote PC.	Use a remote PC with a higher CPU speed.
Remote PC disk type	Different disk types have different data transfer rates (for example, SCSI is usually faster than IDE, or a newer ATA interface is faster than the older IDE type, and so on). Remote database backup/restore speed depends on the total data transfer rate of the remote PC disk.	Use a faster disk type on the remote PC.
Remote PC disk speed	A faster disk speed allows for a higher data transfer rate for the remote backup/restore task on the remote PC.	Use a faster disk on the remote PC.
Remote PC processing time	The more processes run on the remote PC, the more the remote database backup/restore task on the remote PC will be slowed down.	Do not run other processes or applications on the remote PC during remote database backup/restore.

Backup/restore variable	Impact of variable on backup/restore	Recommendation
LAN bandwidth	The speed of the remote database backup/restore is proportional to the network bandwidth (speed). A higher LAN speed will have a higher bandwidth to handle the additional network traffic for the backup/restore.	Use a LAN with a higher bandwidth.
LAN traffic	The speed of the remote database backup/restore largely depends on the actual LAN traffic at the time of the backup/ restore. Additional traffic in the network delays the backup/restore packets between Symposium Express Call Center and the remote PC.	Back up/restore your database during low LAN traffic hours.
Symposium Express Call Center database data	The total length of backup time is proportional to the actual amount of physical data in the database at the time of the backup. The length of the backup time will be shorter if less data is in the database.	Keep the minimum call statistical data required (for example, do not keep 10 days of data if you only need to keep 2 days of data).

Calculating the capacity requirements for database backups

Introduction

Before you perform a database backup, you must ensure that the tape or remote directory used for a database backup has enough capacity to hold the backup files. To calculate the amount of space required in the tape or remote directory, you have two options, based on the version of the Symposium Express Call Center software installed on the computer on which you are performing the backup:

- **Symposium Express Call Center Releases 2.0/3.0/4.2** You can use the DBSpace utility included on the Release 4.2 Server Supplementary CD-ROM. For more information, see "Calculating the capacity requirements for database backups using the DBSpace utility" below.
- **Symposium Express Call Center Release 4.2 only** You can access a new database view called "SCCSDBSpace" included when you install the latest Service Update pack. You must create a custom report to extract the contents of the new database view. For more information, see "Calculating the capacity requirements for database backups using the SCCSDBSpace view (on Release 4.2 servers only)" on page 669.

Calculating the capacity requirements for database backups using the DBSpace utility

You can use the DBSpace utility included on the Release 4.2 Server Supplementary CD-ROM to calculate the amount of data that you have stored in the blue, CBC, and master databases, as well as the total amount of data stored, in megabytes.

Note: Since the amount of data stored can change between the time when you run this utility and the time when you back up your database, as an extra precaution, it is a good idea to add a 15 to 30 percent buffer to the amount shown in the Total row of the UsedDBSpace column in the utility window.

To calculate the capacity requirements for database backups using the DBSpace utility

1 Insert the Release 4.2 Server Supplementary CD-ROM into the server in Symposium Express Call Center.

2 On the CD-ROM, browse to the file *DBSpace.exe* located in the directory Utility/DBSpace.

3 Copy the file DBSpace.exe.

4 On the server, create a directory with the name of your choice. This directory can be located anywhere on either the C: or D: logical partition.

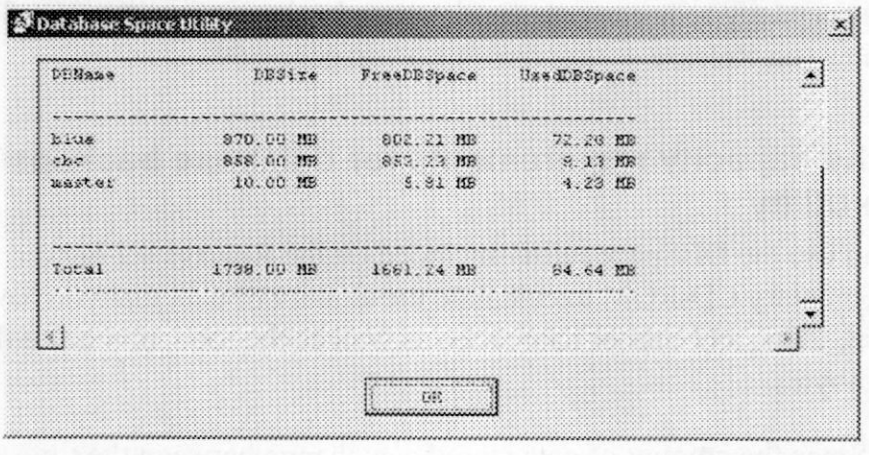
5 Paste the DBSpace.exe file into this directory.

6 On the server, open an MS-DOS prompt window and navigate to the directory containing the file. For example, if the directory name is *Database*, type **cd\Database**, and then press Enter.

7 Start the utility by typing **dbspace.exe <*sysadmin password*>**, and then pressing Enter. For example, if the sysadmin password for your server is *nortel1*, then type dbspace.exe nortel1, and press Enter.

Note: Leave a space between the file name and the sysadmin password.

Result: The Database Space Utility opens and calculates the amount of data stored in the database.



Note: Although Express servers do not store data in the CBC (call-by-call) database, the DBSpace Utility still shows a row for this database in the results.

8 In the window, note the values in the UsedDBSpace column. These values show the amount of data stored in each database (blue, CBC, and master).

Use the scroll bar to view the bottom portion of the pane where the total amount is listed (see the example above). The total value shown in the UsedDBSpace column is the amount of space that you need to have available in a tape or remote directory before you perform a database backup (plus the 15 to 30 percent buffer to safely perform the database backups without any space constraints).

9 Click OK to close the window.

Tip: For your reference, the system creates a replica of the utility results and stores it in a text file called *dbspace.txt*. This file is located in the same directory where you saved the utility and you can view it at any time.

Calculating the capacity requirements for database backups using the SCCSDBSpace view (on Release 4.2 servers only)

On servers running Release 4.2 of Symposium Express Call Center, the latest available Service Update pack includes a new database view called the SCCSDBSpace view. After you install the Service Update pack, to access the contents of the view, create a custom report with your reporting application.

When you generate your custom report, you see the following information:

- the amount of space allocated to the Symposium Express Call Center databases (blue and master)
- the amount of space used by the databases
- the amount of allocated space that is unused

To calculate the capacity requirements for database backups using the SCCSDBSpace view

1 Make sure the latest Service Update pack is installed on the server.

2 Create a custom report with the report writing application of your choice (for example, Crystal Reports). The custom report must point to the new "SCCSDBSpace" view on the server. For information on creating custom reports, see the documentation included with your report writing application.

3 Generate the report to view the capacity requirements for your database backup.

Requirements for database backups

Introduction

You have the option of backing up your server's database to either

- a remote directory on a network computer
- a local tape drive on the server

For each option, this section outlines requirements and recommendations.

Remote directory requirements

If you are using a remote directory to back up your database, read this section to understand requirements for the remote computer and network.

Remote computer requirements

The remote computer for your database backup can be either a server or a workstation that meets the following requirements:

- The operating system must be Windows NT 4.0, Windows 2000 Server, Windows 2000 Professional, or Windows XP.
- The drive partition for the remote directory must be NTFS.
- The directory you use for the backup must have enough space available to hold the backup files.

Network requirements for remote directory backups

Database backups to a remote directory on a network computer require a LAN connection. Ensure that the LAN has low traffic during the scheduled time for the database backup. If you run the backup when LAN traffic is high, the database backup may take longer than planned.

If your server has both CLAN and ELAN network interface cards, use the CLAN connection for the remote backup. If your server has only an ELAN card, consider the following options for obtaining a temporary network connection:

- Reconfigure the ELAN card with a CLAN IP address to connect the server to the customer network.

- Disconnect the ELAN card from the switch and connect it to a temporary server via a hub, creating a local LAN.

If you want to use the remote backup capability for all scheduled backups, Nortel Networks recommends adding a second network interface card to connect to the customer network. The disadvantage of using a single network interface card is that the call center must be shut down to perform a backup. This is impractical for daily backups.

Tape drive requirements and maintenance

If you are using a tape to back up your database, read this section to understand tape drive requirements and maintenance steps.

Tape drives

Use a Windows 2000-compliant tape drive large enough to capture the information. For a detailed explanation of supported tape drives, see "Tape drive requirements and guidelines" on page 33.

Head-cleaning kit

Nortel Networks recommends purchasing a head-cleaning kit to prolong the life of your tape heads and ensure the quality of your backups. You should clean tape drives based on how often they are used.

Tape cartridges used per day	1	2	3	4 or more
Cleaning interval	Weekly	Every other day	Every other day	Daily

Most cleaning kits suggest how often heads should be cleaned.

Dedicated tapes for backup types

Use one backup tape for each backup, regardless of whether extra space is available on the tape. Make sure you have enough backup tapes on hand so that you can save backups for a safe period of time before you have to overwrite an old backup.

CAUTION

Risk of overwriting data

After a backup, the tape is not ejected from the tape drive. Ensure that you eject the tape after each backup to prevent the next backup from overwriting the data.

Tape size

Ensure that the backup tape is large enough to store the data you are backing up. You cannot use multiple backup tapes for a single backup.

Tape rotation

Rotate tapes daily and store them at an off-site location. Do not keep a tape in the tape drive for more than one or two days for the following reasons:

- The next backup may overwrite existing data on the tape. If the same tape is used for several consecutive nightly backups and the tape becomes damaged, no other backup is available to restore lost data.
- Consistent reuse of the same tape accelerates wear on the tape. Tapes may need replacement earlier than their normal life span.

Nortel Networks recommends storing backup tapes off-site for as long as possible before reusing them. Store tapes for at least two weeks.

Section A: Setting up database backup options

In this section

Overview 674
Setting up database backups to tape 676
Setting up database backups to a remote directory 679
Checklist for performing backups 690

Overview

Introduction

Before you run a scheduled or unscheduled database backup, you must determine which backup option you want to use and set it up on the server for Symposium Express Call Center. Your options are

- backing up to a remote directory on a network computer
- backing up to a tape in a local tape drive

If required, you can switch between these methods; however, you cannot use both methods simultaneously.

You set your database backup option on Symposium Express Call Center using the procedures in this section. Then you perform the backup from the client PC as described in "Performing database backups" on page 691.

Note: There are no predefined backup schedules.

Pros and cons of tape backups and remote directory backups

Tape backups

Pros	Cons
■ not affected by network instability ■ no dependency on low network traffic	■ requires maintenance of tape drive and tapes ■ possibility of mechanical failure of tapes and drives ■ backup data is readable only by Sybase backup server; cannot be read by Windows backup utility ■ for technical support, tapes must be handed off or shipped; data cannot be transmitted electronically

Remote directory backups

Pros	Cons
■ for technical support, backup data can be transmitted electronically ■ backup data files can be recognized by the Windows file system ■ low maintenance and not prone to mechanical failure	■ requires a stable network ■ must be scheduled when network traffic is low ■ requires an archiving plan for backup files after each backup to ensure the files are not overwritten

Setting up database backups to tape

Introduction

You can back up your database to a tape in a local tape drive on your Symposium Express Call Center server. You choose the tape backup option through a dialog box in the server software.

Declaring a tape drive

Before you can use a tape drive to perform a backup, you must declare a functional tape drive in the operating system. You should also test the tape drive to ensure it is ready to perform a backup.

Note: Ensure that you have the SCSI drivers for your tape drive installed. For instructions, refer to documentation that came with the operating system.

To check whether the tape drive is declared correctly, or to declare it

1 If you have not installed the physical tape drive, shut down the server and install it.

2 Restart the server.

3 From the Start menu, choose Settings → Control Panel.

4 Double-click System, and then click the Hardware tab.

5 Click Device Manager, and then click Tape drives.

If there is a question mark under Tape drives, this means you have not declared the tape drive correctly. If this happens, do the following:

a. Delete the tape drive.

b. Restart the server, and then select the correct tape drive.

To test the tape drive backup

1 From the Start menu, choose Programs → Accessories → System Tools → Backup.

2 Double-click the Backup icon.

3 Click the Backup tab.

4 In the Backup destination box, select your tape drive.

5 In the Backup media or file name box, select a test file to back up.

6 Click Start Backup.

7 Make sure the backup runs correctly before running any backups with Symposium Express Call Center.

Setting up a tape backup

When you do a fresh installation of the Symposium Express Call Center software, the default setting is tape backup. If you want to confirm that your server is set to tape backup, or if you want to change from remote directory backup to tape backup, use the following procedure.

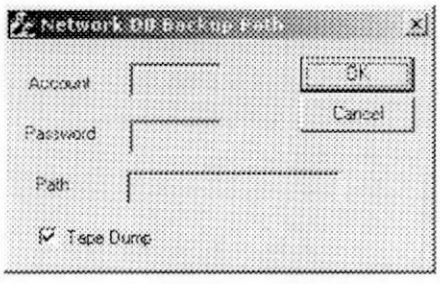
Once you have completed these steps, the next scheduled or unscheduled backup goes to the tape drive.

To set up a tape backup

1 Log on to the server as **NGenSys**.

2 From the Windows Start menu, choose Programs → Symposium Express Call Center → Network DB Backup Path.

Result: The Network DB Backup Path dialog box appears.



3 Make sure the Tape Dump check box is checked.

4 Click OK.

Result: The backup option is set to tape backup.

- If you want to back up your database now, see Section B: "Performing database backups" on page 691.
- If your backup is already scheduled, the system automatically sends the backup to the tape drive.

Setting up database backups to a remote directory

Introduction

You can back up your database to a remote directory on a network computer. You choose this option through a dialog box on Symposium Express Call Center server. However, you must first complete a series of steps to set up the connection between the server in Symposium Express Call Center and the remote directory. To set up a remote directory backup, you must do the following:

1. Prepare the network computer:
   - Create a local Windows user account with administrator privileges.
   - Create a shared directory to contain the remote database backup files.
2. Prepare the server in Symposium Express Call Center:
   - Create an identical local Windows user account with administrator privileges.
   - Add the account to the policy "Log on as a service."
   - Enter the account and path information through a dialog box in the Symposium Express Call Center server, and deselect the tape backup option.

Once you have completed these steps, the next scheduled or unscheduled backup goes to the remote directory. See the detailed procedures below.

ATTENTION

After you configure the remote directory for backup and restore, check your configuration before backing up or restoring the database by following the guidelines listed in the section "Testing the remote directory backup and restore configuration" on page 688.

Files created during remote directory backup

The backup process creates three files:

blue.dmp	Contains the contents of the Blue database.
cbc.dmp	Contains the contents of the CBC database.
master.dmp	Contains the contents of the Master database.

CAUTION

Risk of database restoration error

If you must restore your database, the restore program looks for the exact file names listed above. If you change the file names for archiving purposes—for example, by adding a date to the name—you must change the names back to their original state before you try to restore the database. Otherwise, the restore process fails.

Before you start

Make sure that your remote computer and the network meet the requirements identified in "Remote directory requirements" on page 670.

Worksheet for setting up a remote directory backup

You must set up accounts, passwords, and a shared directory in preparation for remote directory backups. Create names for these items ahead of time and record them in the table below.

Item	Fill in the required information
User Name You must create a name and assign it to two user accounts—one on the network computer and the other on the Symposium Express Call Center server. The name must be identical on both computers.	
User account password You must create a password and assign it to the two accounts described above. The password must be identical on both computers.	
Computer Name of the network computer Obtain and record this name so you have it available when you set up the remote directory backup on the server.	
Share Name for the remote directory You must create a share name and assign it to the directory on the remote computer. The share name can be the directory name (this is the default in Windows) or a different name. **Note:** The Share Name for the remote directory must not contain any spaces. Spaces in the remote directory name cause errors.	

Preparing the network computer for remote directory backup

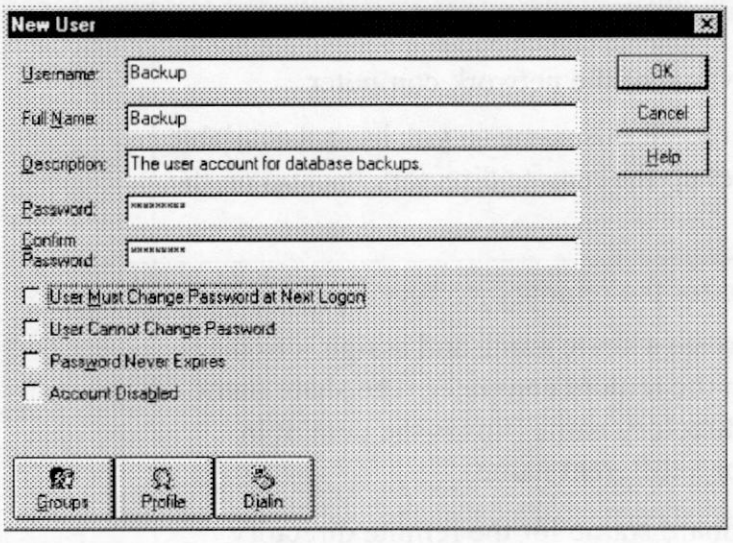
Once you determine which network computer you will use for the remote directory backup, you must create a local Windows user account on it, and then create a shared directory to contain the remote backup. Use the basic steps below, along with the documentation that came with the operating system, to correctly set up the user account and shared directory.

Note: The following procedures do not provide detailed steps, since they differ depending on the operating system on your network computer.

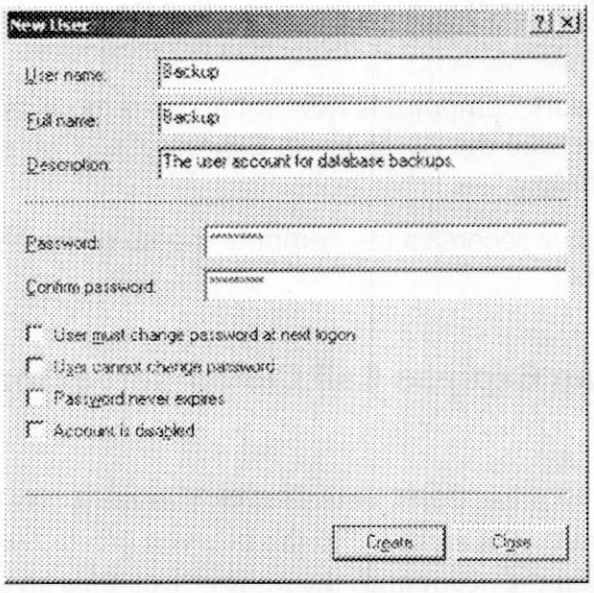
To create the local Windows user account on the network computer

1 Create a new user account in Windows using the User Name and password that you recorded in the worksheet you filled out.

- In Windows NT, you create the new user in Programs → Administrative Tools → User Manager. Then, from the User menu, select New User. Type the user account details in the New User window.



- In Windows 2000, you create the new user in Programs → Administrative Tools → Computer Management. Right-click Local Users and Groups, and then select New User from the resulting pop-up menu. Type the user account details in the New User window.



CAUTION

Risk of database backup failure

When you are creating the new user account in Windows, you must deselect the check box for "User must change password at next logon." If this check box is selected, the Symposium Express Call Center server may not be able to connect to the remote computer.

2 Make the user account a member of the Administrators group.

To create and share the remote directory on the network computer

1 On the network computer, create a directory (folder) to contain the database backup. You can use the Share Name you recorded in the worksheet.

Note: The name of the remote directory must *not* contain any spaces. Spaces in the remote directory name cause errors.

2 Make sure file sharing is enabled on your computer.

3 Make the directory shared, and assign the Share Name you recorded in the worksheet that you filled out.

4 For the shared directory permissions, grant Full Control access rights to the user account that you created in the previous procedure.

Result: The network computer is now set up for remote directory backups. You must now prepare the Symposium Express Call Center server using the procedures below.

5 Make sure you have recorded the computer name of the network computer in the worksheet.

Preparing the Symposium Express Call Center server for remote directory backup

On your Symposium Express Call Center server, you must create a local Windows user account that is identical to the one you created on the network computer. You then add the account to the policy "Log on as a service." To complete preparation of the server, you enter the account information and the path of the remote directory on the Symposium Express Call Center server and turn off the tape backup option. See the detailed procedures below.

To set up the local Windows user account on the server

1 Log on to the server as **NGenSys**.

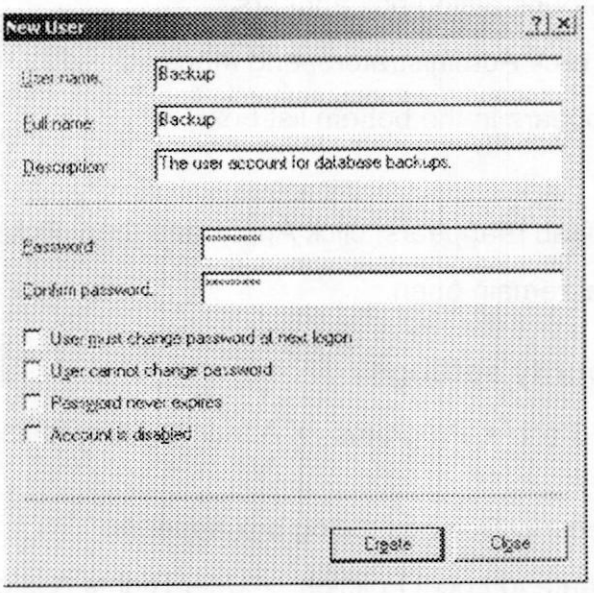
2 From the Start menu, choose Programs → Administrative Tools → Computer Management.

Result: The Computer Management dialog box appears.

3 In the left panel, navigate to Local Users and Groups → Users.

4 Right-click the Users folder, and then select New User.

Result: The New User dialog box appears.



5 In the User name box, type the name you recorded in the worksheet that you filled out. This must be the same user name you assigned to the account on the network computer.

6 In the Password box, type the password you recorded in the worksheet that you filled out. This must be the same password you assigned to the account on the network computer.

7 In the Confirm password box, type the password again.

8 Uncheck the check box for User must change password at next logon.

Note: If you do not remove this check mark, the database backup or restore may fail because the Symposium Express Call Center server may not be able to access the network computer.

9 Click Create.

10 Click Close.

11 In the left panel of the Computer Management window, click the Users folder to display its contents in the right panel.

12 In the right panel, right-click the new user you just created, and then select Properties.

Result: The Properties dialog box for the user appears.

13 Click the Member Of tab.

14 Click Add.

Result: The Select Groups dialog box appears.

15 In the Name column, click Administrators, and then click Add.

Result: The group appears in the bottom list box.

16 Click OK.

17 When the Member Of tab reappears, click Apply, and then click Close.

18 Close all windows that remain open.

To set up the local security settings

1 On the server, select Start → Programs → Administrative Tools → Local Security Policy.

Result: The Local Security Settings dialog box appears.

2 In the left panel, navigate to Local Policies → User Rights Assignment. Click User Rights Assignment to view its contents in the right panel.

3 From the right panel, double-click Log on as a service.

Result: The Local Security Policy Setting dialog box appears.

4 Click Add.

Result: The Select Users or Groups dialog box appears.

5 In the Name column, select the user account that you just created, and then click Add.

Result: The account appears in the bottom list box.

6 Click OK.

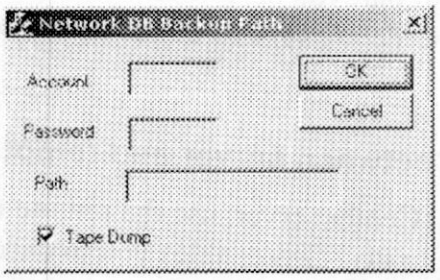
7 Click OK to close the Local Security Policy Setting dialog box.

8 Close the Local Security Settings dialog box.

To complete the remote directory settings on the server

1 On the server, select Start → Programs → Symposium Express Call Center → Network DB Backup Path.

Result: The Network DB Backup Path dialog box appears.



2 Uncheck the Tape Dump check box.

3 In the Account box, type the User Name you recorded in the worksheet that you filled out. This must be the same User Name you assigned to the account on both the network computer and the server.

4 In the Password box, type the password you recorded in the worksheet that you filled out. This must be the same password you assigned to the account on both the network computer and the server.

5 In the Path box, type the network path for the shared directory that you created on the network computer. Use the following format:

- computername\sharename

Refer to the computer name and share name that you recorded in the worksheet that you filled out.

6 Click OK to save your settings and exit.

Result: Symposium Express Call Center is now set to back up the database to the remote directory on the network computer.

- If you want to perform a scheduled or unscheduled backup, see Section B: "Performing database backups" on page 691.
- If your backup is already scheduled, the system automatically sends the database backup files to the remote directory.

Testing the remote directory backup and restore configuration

To ensure that you have configured the remote directory backup correctly, after completing the configuration procedures listed above, perform the following steps before backing up to, or restoring from the remote directory. Before a migration or conversion, it is important that you perform these steps on both the original server (before backing up your database) and on the new server (before restoring the database).

Check the physical connection between server and remote PC

1. On the Symposium Express Call Center server, use the remote PC computer name to ping the remote PC. This enables you to check the physical network connection between the server and the remote PC.
2. If you cannot ping the remote PC from the Symposium Express Call Center server, check the remote PC computer name, DNS configuration, and the physical network connection between the server and the remote PC (for example, the IP address and router configuration).

Check the access to the shared folder

1. On the server, log on to Windows using the local Windows user account that you created on the server. For more information on this account, see "To set up the local Windows user account on the server" on page 684.
2. On the server, temporarily map to the shared folder on the remote PC as a mapped network drive.
3. To check the access level to this mapped folder, on the server, copy any small file (for example, a text file) and paste it into this mapped drive. Then delete this file from the mapped drive.
4. If the system prompts you to enter the user name and password for the shared folder, then check that the user name and password for the Windows user accounts are synchronized on the server and the remote PC.
5. If you cannot paste the copied file into the shared folder, or delete the file from it, then on the remote PC, check that the Windows user account has been granted Full Control access rights.
6. On the server, unmap the shared folder, and then log off the server.

Perform a test backup

After configuring the remote backup, you can schedule a backup and check the results in the backup log file when the backup is complete. Make sure you do this when there is low network traffic.

Checklist for performing backups

Step	✔
After installing your server, or after making changes to your server configuration (for example, IP addresses), create a Platform Recovery disk. For more information, see "To create a Platform Recovery Disk" on page 716.	
If you have the Voice Services feature, perform a Voice Services backup after installing your server, or after making changes to your Voice Services configuration (for example, creating new prompts or changing the treatment configuration). For more information see Section C: "Performing Voice Services backups" on page 707.	
Decide whether to use tape backups or remote directory backups, and configure the setting on Symposium Express Call Center. For more information, see Section A: "Setting up database backup options" on page 673.	
If you are backing up to a tape, ensure that you have the following: ■ enough backup tapes to rotate them. See page 671. ■ a head-cleaning kit. Also ensure that you clean the tape drive regularly. See page 671.	
Schedule a daily database backup from the client software. See page 691. **Note:** You may also want to plan an offline full backup using a third-party backup utility.	

CAUTION

Risk of data loss

The server does not contain a default backup schedule. Perform a backup after all system hardware and software are installed and also before and after any conversion. Schedule a daily database backup.

Section B: Performing database backups

In this section

Overview 692
Performing database backups 694
Monitoring backups 701
Other procedures for scheduled backups 706

Overview

Introduction

To ensure that your system information can be restored after a hardware failure or data corruption, schedule regular backups. For scheduling suggestions, see "When to perform a database backup" on page 658.

You can back up your database either to a local tape drive or to a remote directory on a network computer. You must configure one of these options on your Symposium Express Call Center *before* scheduling a backup. For more information, see Section A: "Setting up database backup options" on page 673.

ATTENTION

In the following procedure, you must select PrimaryServerTape as the backup device for both tape backups and remote directory backups.

Note: To recover your system, you must have a Platform Recovery disk. See "To create a Platform Recovery Disk" on page 716.

Overwriting data

Remote directory backups

When you schedule regular backups to a remote directory, the backup program overwrites any existing database backup files in the remote directory with new versions of those files. To avoid overwriting the database backup files, move each set from the remote directory to another location following each backup, and store them according to the date when they were created. For a list of files created at each backup, see "Files created during remote directory backup" on page 680.

Tape backups

When you schedule a backup to tape, the overwrite option is selected automatically. This option overwrites any data on the tape. To avoid overwriting the data after a scheduled backup, remove and replace the tape, make sure it is labeled appropriately, and store it in a safe place.

To prepare tapes prior to a scheduled backup

1 Remove the write-protect tabs from the backup tapes.

2 Label your backup tapes with the following information:

- backup date and time
- backup files
- name of person who is performing the backup

3 Insert the tape properly into the tape drive on the server.

CAUTION

Risk of equipment damage

If you insert the tape incorrectly, you run the risk of damaging your system.

Performing database backups

Introduction

You can perform either unscheduled or scheduled backups. Follow the appropriate procedure below.

To perform an unscheduled online database backup (for both tape and remote directory backups)

1 Make sure the services on your server are up.

Note: A database backup uses the HDM service. If this service is down, the database backup cannot start, and the system generates an error message in the Backup Status window stating that the backup completed abnormally.

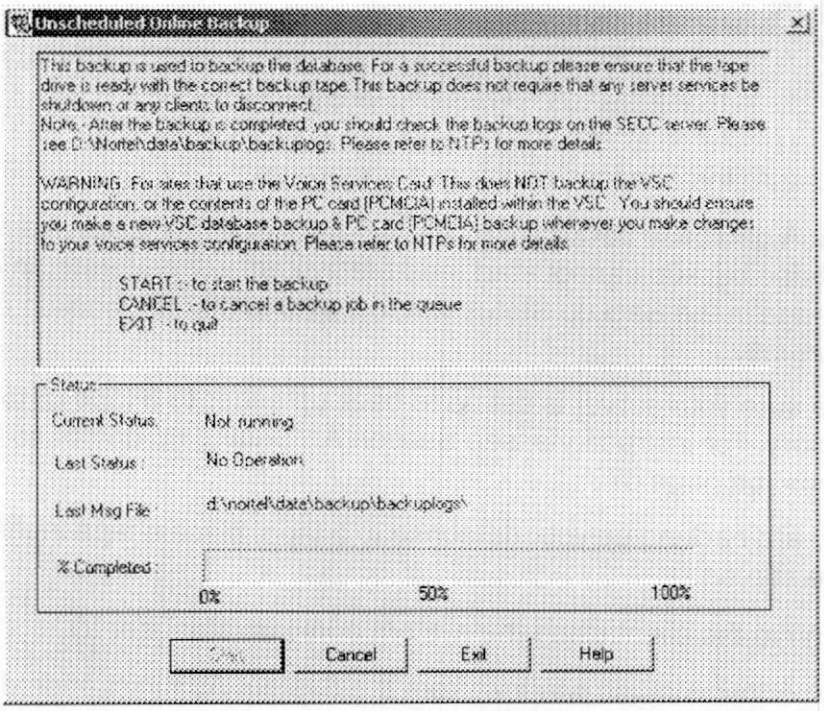
2 Make sure your server is set up to back up either to a tape or to a remote directory. For instructions, see Section A: "Setting up database backup options" on page 673.

3 Log on using the customer administrator or system administrator user ID.

4 If you are backing up your database to a tape, place a tape in the tape drive of the server.

5 In the Administration window, from the System Administration drop-down menu, choose Backup.

Result: The Unscheduled Online Backup dialog box appears.



6 To begin the backup process, click Start.

7 The backup starts and runs until it is complete. You can view the status of the backup in the lower half of the Unscheduled Online Backup window shown in step 5. For detailed information on checking the status of a backup, see “Monitoring backups” on page 701.

Note: Use Cancel to cancel a job in queue. You cannot cancel a backup job while it is running.

To perform a scheduled database backup (for both tape and remote directory backups)

ATTENTION

In the following procedure, you must select PrimaryServerTape as the backup device for both tape backups and remote directory backups.

1 Make sure the services on your server are up.

Note: A database backup uses the HDM service. If this service is down, the database backup cannot start, and the system will generate an error message in the Backup Status window stating that the backup completed abnormally.

2 Make sure your server is set up to back up either to a tape or to a remote directory. For instructions, see Section A: "Setting up database backup options" on page 673.

3 If you are backing up your database to a tape, place a tape in the tape drive of the server.

4 Log on to the client using the system administrator user ID.

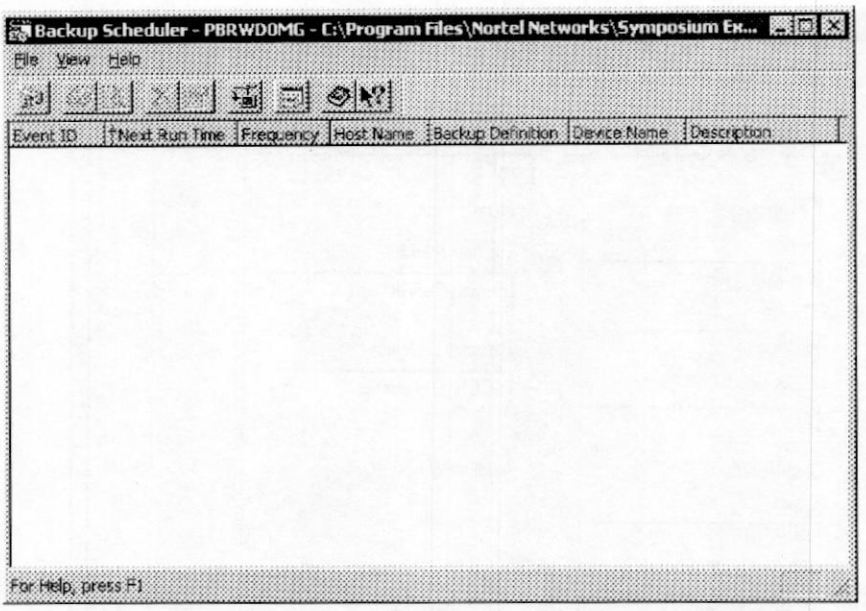
5 In the Administration window, from the System Administration drop-down menu, choose Advanced Functions.

6 Double-click System Administration.

7 Double-click Server backup.

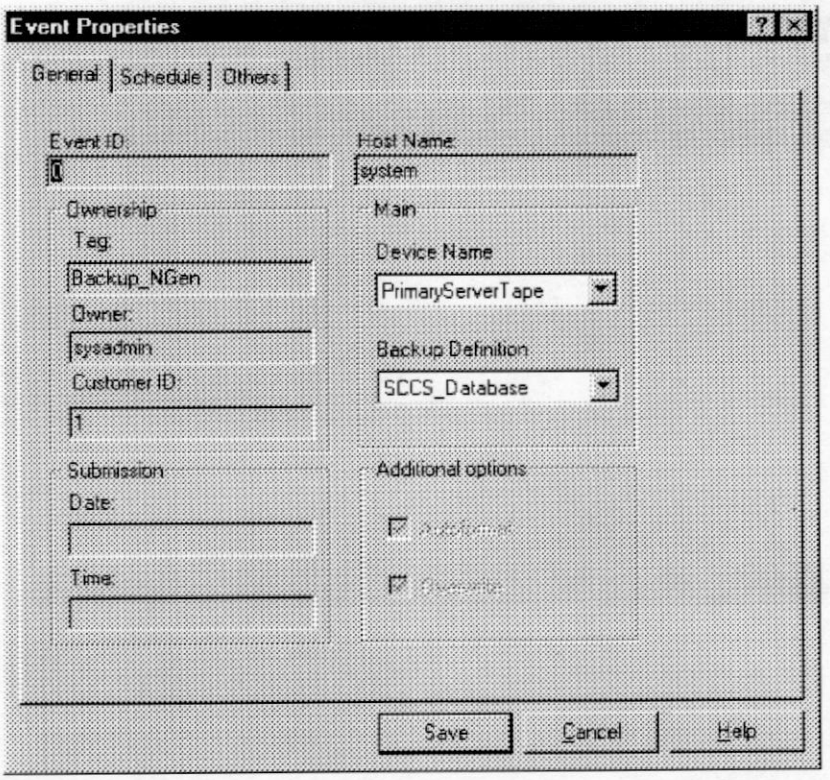
8 Double-click Backup scheduler.

Result: The Backup Scheduler window appears.



9 Click the New Schedule icon (the icon on the far left).

Result: The Event Properties window appears.

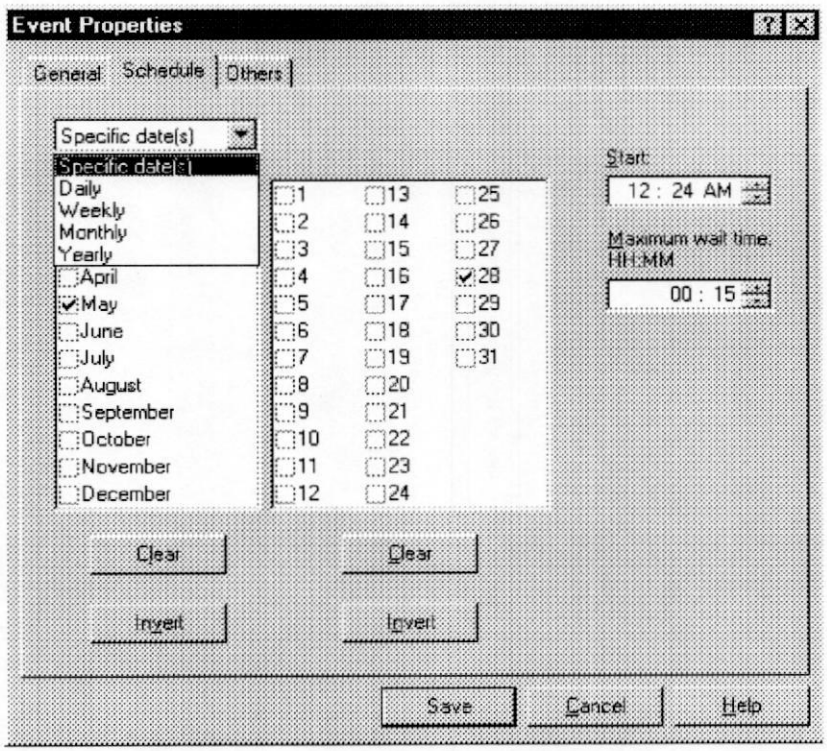


10 In the Device Name drop-down box, ensure that PrimaryServerTape is selected.

Note: This is the default value. This value applies to both tape backups and remote directory backups.

11 Click the Schedule tab.

Result: The following dialog box appears:



12 Select the type of schedule (daily, weekly, monthly, yearly, or specific date).

13 Select the month, day, or date on which the backup should run. (The options available depend on the type of schedule selected.)

14 In the Start box, select the time to start the backup.

Note: The backup is scheduled according to the server time, which is not necessarily the same as the client PC time.

15 In the Maximum wait time box, enter the length of time the system can wait before starting the backup. This time is required in case a scheduling conflict with other tasks forces the backup to wait. If the wait time expires before the backup is able to start, then the backup is skipped. For example, you can schedule a backup for a non-peak period, but in 3 hours the morning shift arrives. In this case, you can enter 03:00 as the interval time. This ensures that the backup does not take place when the morning shift arrives.

16 Click Save to schedule the backup.

17 For information on checking the status of a backup, see "Monitoring backups" on page 701.

Monitoring backups

Introduction

You can monitor the status of a scheduled or unscheduled backup using status windows on the client. You can also use view backup status in the log file at

d:\Nortel\data\backup\backuplogs

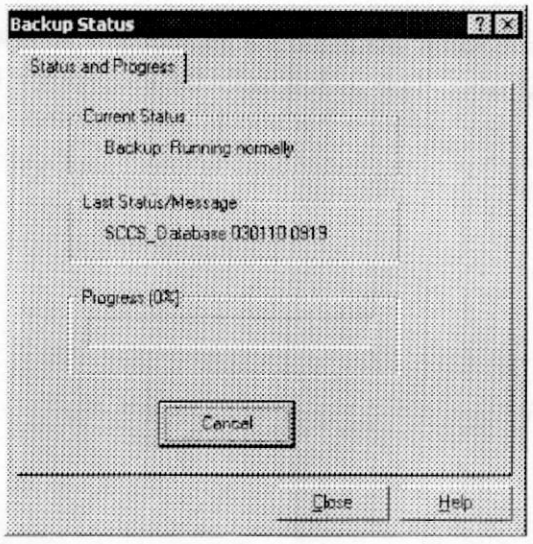
Viewing the status of a scheduled backup

Use the Backup Status window to view the status of a scheduled backup as it runs.

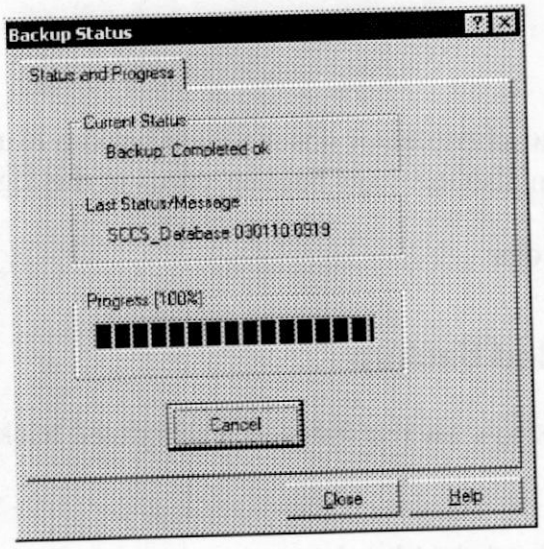
To view the status of a scheduled backup

From the Backup Scheduler window, select View → View backup status.

Result: The Backup Status window appears. The following example shows the contents of this window for a backup that has successfully started:



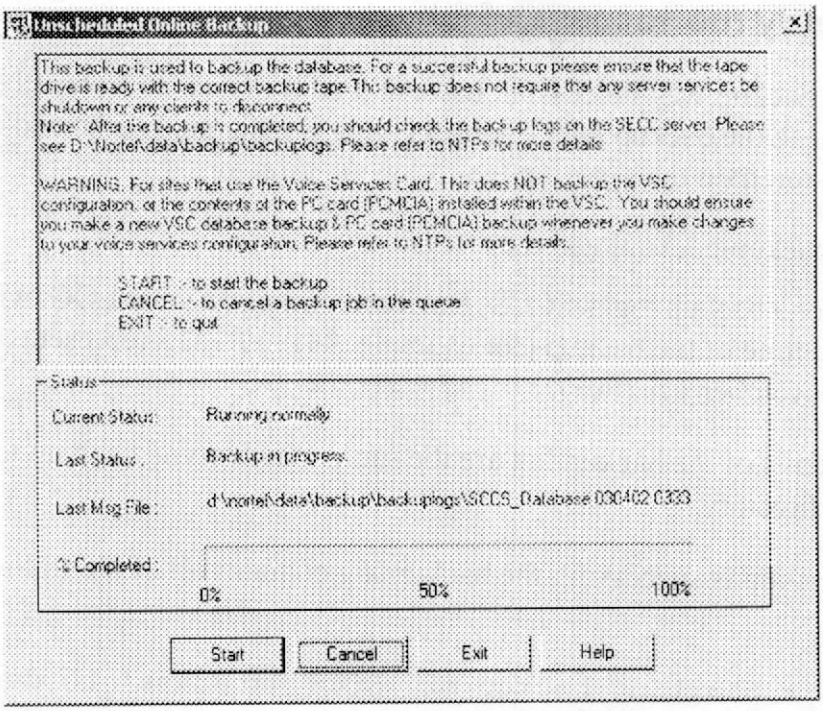
Once the backup has completed successfully, the Backup Status window looks like the example below:



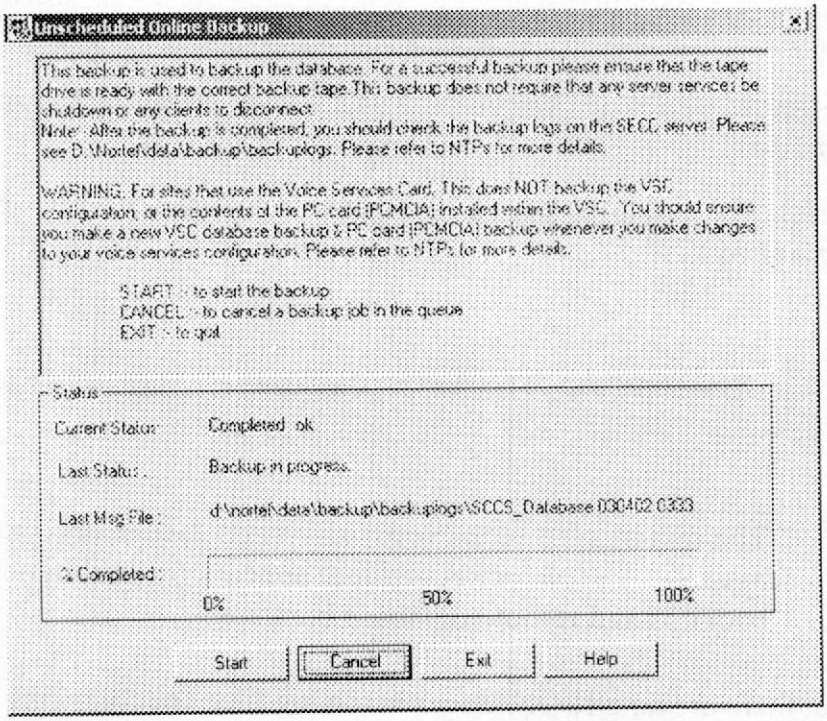
If any files are not copied successfully, a minor alarm is generated. Obtain the Event ID from the alarm in the Alarms Monitor for more information.

Viewing the status of an unscheduled backup

Use the lower half of the Unscheduled Online Backup window to view the status of an unscheduled backup as it runs. The following example shows the contents of the Status section of the window while a backup is progressing normally.



Once the backup has completed successfully, the Status section looks like the example below:



Using log files to verify the success of a backup

To verify that a backup was successful, use a text editor (such as Notepad or WordPad) to check the backup log. The backup log is generated at the end of the backup, and is stored on the server in the following directory:

d:\Nortel\data\backup\backuplogs

The file name for a backup log is SCCS_Database *yymmdd hhmm*.LOG, where *6* are the date and time of the backup (for example, 031117 1415 represents 2:15 p.m. on November 17, 2003).

Note: The contents of the backup log are the same whether you back up to tape or to a remote directory.

If a database backup is successful, the backup log contains all of the following messages:

```
[DATE/TIME] - Starting backup of 'SCCS_Database' to device
'PrimaryServerTape' ...


[SERVER MESSAGE]:Backup Server: 3.42.1.1: DUMP is complete
(database cbc).

[SERVER MESSAGE]:Backup Server: 3.42.1.1: DUMP is complete
(database blue).

[SERVER MESSAGE]:Backup Server: 3.42.1.1: DUMP is complete
(database master).


[DATE/TIME] - The backup of 'SCCS_Database' was completed
successfully.
```

ATTENTION

The text `Starting backup of 'SCCS_Database' to device 'PrimaryServerTape'` appears for both tape backups and remote database backups.

Make sure that there are no error messages in the log file. The following example shows a log file with errors:

```
[DATE/TIME] - Starting backup of 'SCCS_Database' to device
'PrimaryServerTape' ...


[SERVER MESSAGE]:Backup Server: 3.42.1.1: DUMP is complete
(database cbc).

Msg 408202, Level 2, State 41

This database backup has errors or warnings.


[DATE/TIME] - The backup of 'SCCS_Database' failed.
```

If your database backup produces error messages, repeat the backup. If it produces error messages again, contact Nortel Networks customer support.

Other procedures for scheduled backups

Introduction

You can change any detail of a scheduled backup using the Event Properties window. You can also delete backups from this window.

To change a scheduled backup

On the Backup Scheduler window, double-click the scheduled backup that you want to change.

For step-by-step instructions, press F1 to access the online Help.

To delete a scheduled backup

On the Backup Scheduler window, select the scheduled backup that you want to delete, and then choose File → Delete.

For step-by-step instructions, press F1 to access the online Help.

To cancel a backup

Unscheduled backups

You can cancel an unscheduled backup that has been queued but has not yet started running. You have 60 seconds, from the time you click Start, to cancel the backup. Once it has started running, you cannot cancel it.

Scheduled backups

You cannot cancel scheduled backups once they have started.